IMPACT OF SPIRITUAL-RELIGIOUS GROUP THERAPY ON BEHAVIORAL STATUS OF MALE INPATIENTS WITH METHAMPHETAMINE-INDUCED PSYCHOTIC DISORDER

Alireza Kazemi Zarif 1, Ladan Fattah Moghaddam 2, Farbod Fadai, 3, Roghayeh Maddahifard 4

1. Department of Psychiatry, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.
2. Department of Psychiatric Nursing, Islamic Azad University, Tehran Medical Sciences Branch, Tehran, Iran. Corresponding Author
3. Department of Psychiatry, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.
4. General Psychology, Tehran, Iran.

ABSTRACT
This study aims to assess the effects of spiritual-religious group therapy on the behavioral status of male inpatients with methamphetamine-induced psychotic disorder. 28 male inpatients with methamphetamine-induced psychotic disorder participated in this experimental study and were divided equally into two intervention and control groups. The intervention group attended in 12 spiritual-religious group therapy sessions for 4 weeks while the control group gathered 12 sessions with no intervention (friendly chat as placebo treatment). Data collection instruments include one Demographic Information Questionnaire and one Behavioral Status Questionnaire. Chi-Square and Independent T-Test were used for data analysis. The intervention group showed reduction in aggression, including verbal and physical aggression, and improvement in general social behaviors, including shyness, intense emotional attachment to others, and moodiness. After the study, the mean score of the intervention group decreased from 63.14 to 50.08 which indicated a significant difference (p<0.001) whereas the control group showed no significant difference. In addition, there was also a significant difference between the scores of two groups after intervention (p<0.001). The results showed that spiritual-religious group therapy can be effective in improvement of behavioral status of male inpatients with methamphetamine-induced psychotic disorder.

KEYWORDS: spiritual-religious group therapy, methamphetamine-induced psychotic disorder, behavioral status

INTRODUCTION
Methamphetamine (MAMP) abuse is one of the major challenges in health care system (Ekhtiari, 2010). International publications, including World Health Organization (WHO), International Narcotics Control Board (INCB), and the United Nations Educational, Scientific and Cultural Organization (UNESCO), suggest an increase in substance abuse around the world (Fallahi et al. 2009). Also, according to the Center for Substance Abuse Treatment (CSAT) in the United States, about 20 to 50 percent of psychiatric inpatients and outpatients have had occasional or persistent experience of substance abuse (Galanter & Kleber, 2011). It should be noted that there is no single factor for drug abuse. This behavior is the complex result of social, cultural, psychological and spiritual factors that determine substance abuse. A complete understanding of these factors is necessary to identify and solve the problems of patients (Carter 1998). For many of those who work in the field of substance abuse treatment, the use of spiritual concepts is considered as a key value-based index and an effective construct in the treatment of substance abuse (Bahari, 2009). Recently, the concept of spirituality and religion has become a focus of growing interest and attention as a coping mechanism in the process of recovery in drug abuse (Hugulet, Moher, Borras, Gillieron, and Brandt, 2006). Studies have shown that people with higher levels of spiritual and religious beliefs were much less involved in drug abuse (Brown et al. 2007). Spiritual-religious group therapy is a non-drug treatment and has no side effects compared to medical treatments. Since many MAMP-dependents do not consider themselves as patients, there is a greater chance for non-drug therapies to be accepted by them. Spiritual-religious group therapy, which is derived from the patients’ daily life issues, can be more convenient for MAMP abusers. Furthermore, studies showed that group therapy is effective in preventing relapses by changing the beliefs of the patients and increases the generalizability of treatment results. Considering the role of spirituality in the healing
process, it is essential to address this concept in providing healthcare for these patients (Koenig, 2013). The aim of this study is to investigate the influence of spiritual-religious group therapy on male inpatients with methamphetamine-induced psychotic disorder admitted to the Razi Psychiatric Center.

**Theoretical Foundations of the Study**

According to the latest statistics by the United Nations, about 500 tons of amphetamine-type stimulants are produced all around the world and abused by 40 million people (about 0.6 to 0.8 percent of the world’s population between 15 and 64 years of age). Amphetamines, Ecstasy and MAMP – whose crystalized form is known as Glass in Iran – are the most important amphetamine-type stimulants (Ekhtiari, 2010). The chemical structure of these molecules can be produced even in small laboratories. The high stimulatory effects of amphetamine-type stimulants (more than twice as cocaine) especially MAMP as the most powerful member of this family and their damaging potential have called for serious attention in the past years. Despite the unchanging need for the treatment of heroin dependency, the need for the treatment of MAMP abuse has increased 8 times over the past 10 years in the United States. In Iran also, due to a significant increase in the domestic production of MAMP, the low price of this drug, and the absence of a stimulatory substance besides a variety of drugs on the market, MAMP abuse either by itself or accompanied by opiates has increased considerably over the past few years. Accordingly, an increasing need for treatment of MAMP abuse should be considered in Iran in the near future - a need so intense that the current drug abuse treatment system of the country cannot even come close to meet (Ekhtiari 2010). Generally, the treatment of methamphetamine-induced psychosis can be divided in two categories:

A. Medication treatments: There is no effective pharmacological treatment for amphetamine dependency (Saddok, Saddok and Ruiz, 2009).

B. Non-drug treatments: Non-drug treatments include: Cognitive-behavioral therapy, supportive-expressive dynamic psychotherapy, group therapy, spirituality therapy, autonomous groups and the 12-step program, healthcare networks, and family therapy (Longshore, Anglin, and Conner, 2009).

One type of treatment for patients with MAMP dependency is group therapy. Group therapy is a form of psychotherapy that uses certain principles and religious and spiritual techniques to help patients to achieve an incorporeal perception of the self, the world, events and phenomena and attain health and growth by getting in touch with the incorporeal world (Richard and Bergin, 2005). Spirituality is the main purpose of this type of psychotherapy and religious regulations, directives and concepts are the ways that lead to it. In other words, what is authentic and consequently leads to the growth and health of a person is the achievement of some kind of harvest from one’s life and oneself in which the presence of non-material phenomena and persistent contact with substance or meaning is felt constantly. Feeling the presence of God is the most important and sustaining than the others (Richard and Bergin, 2005). Fallot (2001) reported summaries of patients whose spirituality had a positive impact on their recovery in different ways. Fallot enumerates three key subjects in relation to spirituality: 1) Spirituality plays a positive role in solving problems and coping with stressful situations which occurs when avoiding drug use and negative activities. 2) Religious participation in churches or mosques and a belief in some form of a higher power create a sense of social support. 3) Spirituality strengthens the “sense of wholeness” in the individual. Linking the patients with religious communities can be an effective intervention. Many people with mental illness live alone and in isolation and therefore have dire a need for social communication. In many cases, group meetings are a source of support and can meet such forms of social need (Sullivan and Patrick, 1993).

**Literature Review**

*Studies conducted in Iran*

In a study at Noor Medical Center titled “effects of religious cognitive therapy in the reduction of depression and anxiety in patients suffering from mood disorders” Sanae and Nasiri (2000) concluded that religious contents create...
a positive attitude to the environment and the future. These beliefs cause people to not consider them vulnerable and feel a sense of security in the environment.

Fallahi Khoshknab (2005) conducted a study to analyze the effects of recreation therapy on the behavioral and psychological status of patients with schizophrenia at Razi Psychiatric Center. 45 patients with chronic schizophrenia who were not mentally retarded were sent on a 10-day pilgrimage to the holy city of Mashhad. Data collection instruments included the Brief Psychiatric Rating Scale (BPRS) and the Daily Living Skills Disability (Behavioral Problems) Questionnaire for Patients with Mental Disorders. The results showed that recreation therapy is effective on the behavioral and psychological status of patients with schizophrenia (p<0.05).

Studies conducted outside Iran
Revhim and Greenberg (2007) conducted a study titled “spirituality matters: creating a time and place for hope”. The purpose of this study was to evaluate the effects of group therapy in the improvement process of social skills in schizophrenic patients. The results of this study showed the importance of spirituality in the form of group activity as a coping mechanism during recovery. Rose, Westfeld, and Ansley (2008) investigated whether patients are willing to discuss spiritual issues during their treatment and whether they believe in the appropriateness of such discussion sessions. These patients were under treatment for depression and anxiety, 60 percent of the participants reported religious affiliations and 40 percent reported lack of any religious affiliation. According to the results, the patients believed that discussion on spiritual and religious matters were effective in the treatment process. The researchers concluded that religious and spiritual discussion was not merely desirable for many patients but also of important therapeutic effects that are conducive to the formation of human character, behavior and worldview.

MATERIALS AND METHODS
The present study is conducted in the form of an experimental research project with two-group pretest-posttest design. In this experimental design, patients with methamphetamine-induced psychotic disorder are placed into two different treatment conditions: under spiritual-religious group therapy and under no psychotherapy. The statistical population includes all MAMP abusers with psychotic symptoms admitted to Razi Psychiatric Hospital because of methamphetamine-induced psychosis. The sample population of this study consists of all patients with the following criteria:

Inclusion Criteria

1. Based on the diagnostic criteria stipulated in the fourth revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), the psychiatrist should diagnose the patient with methamphetamine-induced psychosis and register the symptoms in the patients’ medical record.
2. The patient must be a male participant.
3. The patient must be passed the acute phase of the disorder (aggression, hyperactivity,
4. The patient must be willing to participate in the study
5. The patient must be able to handle group meetings (the ability to concentrate and sit in sessions of 45 minutes)
6. The patient must be able to communicate effectively with researchers at the initial interview (the ability to start and continue conversation and establish eye contact)
7. The patient must have a minimum age of 25 and a maximum of 45.

Exclusion Criteria

1. Frequent absences from the meetings or giving up participation in group therapy sessions.
2. Recurrence of disorders
3. Being dismissed and going back to the family so that presence in the hospital is not possible.
4. Other psychiatric diagnoses besides methamphetamine-induced psychosis.
5. The presence of comorbid disorders such as intellectual disability, epilepsy and so on.

Sample Size and Sampling Procedure
Sampling was conducted through randomization. We determined a sample size of 14 patients for each group based on the Cohen’s sample size table (d= 0.08, α=0.05, and effect size= 0.30). In order to consider the possibility of loss of participants, we considered 18 subjects for each group. From among the 18 participants of the experimental group, 12 patients remained and 6 were excluded: 1 for not returning from a temporary leave of absence and 5 for early release by their family’s consent and the subsequent lack of cooperation. We added 2 more participants to make the two groups equal in terms of the members. 4 members of the control group were excluded for early release by their family’s consent and the subsequent lack of cooperation and 14 remained.

Data Collection Procedures
Required data in this study were collected through interviews with and observation of the patients by the researcher using survey data collection instruments. First, before the intervention, we administered the Daily Living Skills Disability (Behavioral Problems) Questionnaire for Patients with Mental Disorders and a demographic data questionnaire in the two groups and then re-administered them after the intervention.

Implementation Procedures
First, we selected 28 participants from among the patients who had the inclusion criteria and lacked the exclusion criteria and were willing to participate. Then, we randomly grouped the participants in two. The control group participated in sessions with no intervention (friendly chat as placebo treatment) and the experimental group participated in group therapy sessions.

Instruments and Materials
Data collection instruments included a demographic data questionnaire and the Daily Living Skills Disability (Behavioral Problems) Questionnaire for Patients with Mental Disorders.

Daily Living Skills Disability Questionnaire for Patients with Mental Disorders
The Daily Living Skills Disability Questionnaire developed by Karbalaee Esmaeel (1997) is comprised of 56 items in 3 sections.

1. Self-care skills section including 12 items and a total score of 36: washing, brushing, combing hair, shaving, health care, appearance care, shortens the length of nails, bathing, eating, dressing, correct use of drugs, ability to use money.
2. Communication care section including 22 items and a total score of 88: 4 items in the area of non-verbal communication skills, 2 in the area of verbal communication skills, 8 in the area of communication with other patients, 4 related to communication with employees and others, and 4 related to self-expression.
3. Behavioral problems section including 22 items and a total score of 88: 4 items in the field of aggression and 18 related to social problems.

Instrument Validity and Reliability
The Daily Living Skills Disability Questionnaire was developed by Karbalaee Esmaeel (1997) and implemented at Razi Psychiatric hospital on 96 inpatients with psychological disorders in order to determine its validity and reliability (r= 0.74). Furthermore, it was implemented twice at Razi Psychiatric hospital by Fallahi on 80 inpatients with schizophrenia in 2001 and on 45 inpatients with schizophrenia in 2005.
Ethical Considerations
This project was carried out with the approval of the Committee on Publication Ethics of the University of Social Welfare and Rehabilitation and Razi Psychiatric Center.

Data Analysis
According to demographic data, most of the participants are between 25 and 29 years old in the experimental group and between 35 and 39 years old in the control group. 71.4 percent of the participants in the experimental group are single and 28.6 percent are married. Also, 42.9 percent of the participants in the control group are single, 42.9 percent married and 14.3 percent divorced. Furthermore, most of the participants in the experimental group have a secondary school education and most members of the control group have a high school diploma. The mean value and standard deviation of the variables of aggressive behavior, general social behavior problems and behavioral problems for the two groups before and after the intervention are presented in the following tables.

RESULTS AND DISCUSSION

Table 1 - Descriptive statistical indices measuring levels of aggressive behavior

<table>
<thead>
<tr>
<th>Scales</th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>Before intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After intervention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard deviation</td>
<td>3.17</td>
<td>2.12</td>
</tr>
<tr>
<td>Mean</td>
<td>13.50</td>
<td>14.28</td>
</tr>
</tbody>
</table>

As shown in Table 1, the lowest score on the variable of aggressive behavior belongs to the experimental group after the intervention. The decrease in score suggests the effectiveness of therapy.

Table 2 - Descriptive statistical indices measuring levels of problem in general social behavior

<table>
<thead>
<tr>
<th>Scales</th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>Before intervention</td>
<td>6.10</td>
<td>8.00</td>
</tr>
<tr>
<td>After intervention</td>
<td>6.02</td>
<td>6.09</td>
</tr>
</tbody>
</table>

As shown in Table 2 and with a look at the obtained values, the lowest score on the variable of general social behavior problems belongs to the experimental group after the intervention. The decrease in score suggests the effectiveness of therapy.

Table 3: Descriptive statistical indices measuring levels of behavioral problems

<table>
<thead>
<tr>
<th>Scales</th>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard deviation</td>
</tr>
<tr>
<td>Before intervention</td>
<td>7.10</td>
<td>9.38</td>
</tr>
<tr>
<td>After intervention</td>
<td>7.10</td>
<td>7.30</td>
</tr>
</tbody>
</table>

| Standard deviation      | 60.60         | 60.00             | 60.00         |
|                         | 7.10          | 7.30              | 50.08         |
As shown in Table 3, the lowest score on the variable of behavioral problems belongs to the experimental group after the intervention. The decrease in score suggests the effectiveness of therapy. To evaluate the effectiveness of intervention, we conducted a dependent t-test. The results of the t-test are presented in Table 4.

Table 4: T-test results in the experimental group

<table>
<thead>
<tr>
<th>Significance level</th>
<th>t statistic</th>
<th>Standard deviation</th>
<th>Mean</th>
<th>Group</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>8.06</td>
<td>2.14</td>
<td>4.50</td>
<td>Experimental</td>
<td>Aggressive behavior</td>
</tr>
<tr>
<td>0.000</td>
<td>5.43</td>
<td>6.1</td>
<td>9.10</td>
<td>Experimental</td>
<td>General social behavior problems</td>
</tr>
<tr>
<td>0.000</td>
<td>4.16</td>
<td>7.10</td>
<td>13.35</td>
<td>Experimental</td>
<td>Behavioral problems</td>
</tr>
</tbody>
</table>

Table 5 compares the results of behavioral problems in the control group. There is no significant difference between pre-test and post-test mean values. We used the analysis of covariance to compare the effects of intervention on patients and to eliminate the effect of the pretest. The results are reported in Table 6. As seen in this table, there is a significant difference between the two groups after intervention in all the variables - aggressive behavior, general social behavior problems, and behavioral problems - at the 0.999 confidence level (α=0.001). In other words, spiritual-religious group therapy is effective in the treatment of methamphetamine-induced psychotic symptoms.

Table 5: T-test results in the control group

<table>
<thead>
<tr>
<th>Significance level</th>
<th>t statistic</th>
<th>Standard deviation</th>
<th>Mean</th>
<th>Group</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.302</td>
<td>1.075</td>
<td>0.99499</td>
<td>0.2851</td>
<td>Control</td>
<td>Aggressive behavior</td>
</tr>
<tr>
<td>0.060</td>
<td>2.280</td>
<td>0.46881</td>
<td>0.2851</td>
<td>Control</td>
<td>General social behavior problems</td>
</tr>
<tr>
<td>0.135</td>
<td>1.593</td>
<td>0.34245</td>
<td>0.57143</td>
<td>Control</td>
<td>Behavioral problems</td>
</tr>
</tbody>
</table>

Table 6 - ANCOVA for comparing the two groups

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Significance level</th>
<th>F statistic</th>
<th>Sum of squares</th>
<th>Variables</th>
<th>Source of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.000</td>
<td>23.631</td>
<td>138.001</td>
<td>Aggressive behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>11.932</td>
<td>601.039</td>
<td>General social behavior problems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.000</td>
<td>23.592</td>
<td>1314.312</td>
<td>Behavioral problems</td>
<td></td>
</tr>
<tr>
<td>0.745</td>
<td>0.000</td>
<td>23.631</td>
<td>138.001</td>
<td>Aggressive behavior</td>
<td></td>
</tr>
<tr>
<td>0.758</td>
<td>0.000</td>
<td>11.932</td>
<td>601.039</td>
<td>General social behavior problems</td>
<td></td>
</tr>
<tr>
<td>0.789</td>
<td>0.000</td>
<td>23.592</td>
<td>1314.312</td>
<td>Behavioral problems</td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSION
In order to evaluate and compare the effects of spiritual-religious group therapy on the behavior of male inpatients with methamphetamine-induced psychosis, we conducted spiritual-religious group therapy along with drug treatment on the experimental group and then evaluated the efficacy of the treatment in improving patient behavior. The results of analyses showed that spiritual-religious group therapy can improve the behavioral status of these patients compared with that of members of the control group. The experimental group exhibited significant improvements in aggressive behavior – including verbal and physical aggression toward others, aggression because of irritation, and damaging furniture and appliances in the hospital – as well as in social behavior – such as shyness, intense emotional attachment to others, and moodiness – compared with the control group. As a result, the second hypothesis is confirmed. Therefore, it can be concluded that spiritual-religious group therapy improves the behavioral status of patients with methamphetamine-induced psychosis. The mean behavioral status score before group therapy was 63.14 which decreased to 50.08 after the intervention. The decrease in the score on behavioral status is a sign of the effectiveness of spiritual-religious group therapy in the experimental group. The results indicate a significant difference between pre- and post-treatment scores on behavioral status (measures of aggression and social behavior problems). These results are consistent with the findings of studies by Fallahi Khoshknab (2005), Asayesh, Fallahi, Fadaee, and Karimlu (2006), and Bouras et al. (2008). In a study titled "Quran recitation effects on depressive patients in the Moradi Rafsanjan psychiatric hospital", Ansari Jaberi et al. (2005) showed that Quran recitation improves depression and social behavior problems (p<0.001). In addition, the difference between pre- and post-test mean scores of patients who declared a stronger belief in the Quran was higher compared with the other patients. Asayesh et al. (2012) evaluated the effects of poetry reading group therapy as a spiritual activity on the social behaviors of 29 schizophrenic patients and achieved improvements in the mental and behavioral status of the patients.

The results showed significant differences between the scores of the experimental group before and after the therapeutic poetry intervention (p=0.001). However, there was no significant difference between the scores of the control group before and after the intervention (p=0.774). Also, there was no significant difference between the two groups after the therapeutic poetry intervention (p=0.001). This means that an interest and involvement in the spiritual dimension can improve the mental and behavioral aspects of human beings. Religion and spirituality are a resource for the meeting of existential needs. Mental health problems are often manifestations of existential sickness. Usually, the most intense positive and negative emotions of the patient are related to religious and spiritual experiences. From this perspective, some mental problems are mainly due to the negligence of the individual for one’s nature. Since our most basic natural needs and tendencies include the belief in and submission to God, when a person refrains from submitting to and worshiping God, he or she faces a variety of behavioral and psychological problems such as anxiety, depression, psychosis, aggression and social deviations. Several studies have demonstrated the role of religious faith and a belief in spirituality in mental health (Hasanabad, 2006). Overall, the findings suggest that spiritual-religious group therapy is effective in improving the behavioral status of male patients with methamphetamine-induced psychosis. This method of therapy can be effective in improving the condition of patients in combination with conventional medical therapy or drug treatment. Therefore, it should be considered in the treatment of these patients. It is also recommended that future researchers evaluate the impact of spiritual-religious group therapy on both male and female patients and examine the status of patients with methamphetamine-induced psychosis who are equal in terms of drug treatment. We can point to the limitation of the population to only male patients with -induced psychosis, the limitation of the duration of hospitalization, lack of access to released patients, and lack of control on medication in patients under the study.

References


Sanaee Bagher. And Nasiri Hamid. (2000). Effects of religious cognitive therapy in the reduction of depression and anxiety in patients suffering from mood disorders hospitalized at Noor Medical Center, Isfahan, Iran, The Iranian Consulting Association Quarterly, No. 5, p. 43.

Sullivan WP. And Patrick W. (1993).It the helps me to be a whole person: the role of spirituality among the mentally challenged. Psychosocial Rehabilitation J. 16(3): 125-134